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(71) 出願人 (米国を除く全ての指定国について): 旭有機材工業株式会社 (ASAHI ORGANIC CHEMICALS INDUSTRY CO., LTD.) [JP/JP]; 〒8828688 宮崎県延岡市中の瀬町2丁目5955番地 Miyazaki (JP).  
(72) 発明者; および  
(75) 発明者/出願人 (米国についてのみ): 濱田 健志 (HAMADA, Takeshi) [JP/JP]; 〒8828688 宮崎県延岡市

中の瀬町2丁目5955番地 旭有機材工業株式会社内 Miyazaki (JP). 花田 敏広 (HANADA, Toshihiro) [JP/JP]; 〒8828688 宮崎県延岡市中の瀬町2丁目5955番地 旭有機材工業株式会社内 Miyazaki (JP).

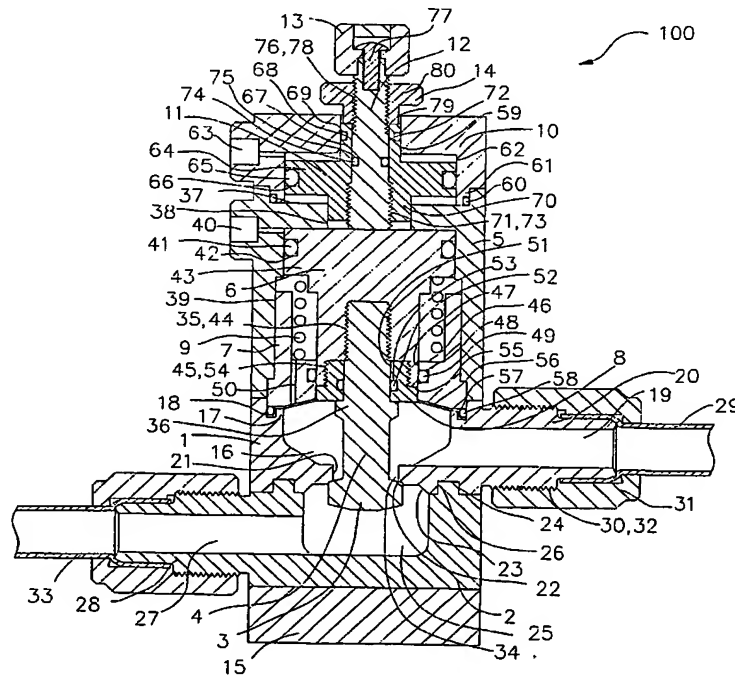
(74) 代理人: 青木 篤, 外(AOKI, Atsushi et al.); 〒1058423 東京都港区虎ノ門三丁目5番1号 虎ノ門37森ビル 青和特許法律事務所 Tokyo (JP).

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[続葉有]

(54) Title: FLUID OPERATING VALVE

(54) 発明の名称: 流体作動弁



(57) Abstract: A fluid operating valve, comprising a first valve chamber (16) and a second valve chamber (25) communicating with each other through a through-port (21), a first cylinder chamber (39) formed adjacent to the first valve chamber (16) and slidably storing a first piston (6), a valve element (3) positioned in the second valve chamber (25) and abutting on or separating from a valve seat (22) around the through-hole (21), a valve stem (4) having one end connected to the first piston (6) and the other end connected to the valve element (3), and an

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添付公開書類:

— 国際調査報告書

2文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

annular diaphragm (8) having an inner peripheral part fixed to the valve stem (4) and an outer peripheral part fixed to the inner peripheral surface of the first valve chamber (16), wherein the first piston (6) is energized by a spring (9) to allow the valve element (3) to abut on the valve seat (22). The first piston (6) is moved by supplying working fluid into the first cylinder chamber (39) through the working fluid supply port of a first cylinder (5) to separate the valve element (3) from the valve seat (22).

(57) 要約: 流体作動弁は、貫通口(21)を介して連通している第1弁室(16)及び第2弁室(25)と、第1弁室(16)に隣接して設けられ且つ第1ピストン(6)を摺動可能に収容している第1シリンダ室(39)と、第2弁室(25)内に位置し且つ貫通口(21)周りの弁座(22)に当接又は離間する弁体(3)と、一端が第1ピストン(6)に接続され且つ他端が弁体(3)と接続された弁軸(4)と、内周部を弁軸(4)に固定され且つ外周部を第1弁室(16)の内周面に固定された環状のダイヤフラム(8)とを備える。第1ピストン(6)はバネ(9)によって付勢され、弁体(3)が弁座(22)に当接している。第1シリンダ(5)の作動流体供給口から第1シリンダ室(39)内に作動流体を供給することによって、第1ピストン(6)を移動させ、弁体(3)を弁座(22)から離間させることができる。

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/002975

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> F16K31/122

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl F16K31/12-31/165, 31/36-42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1926-1996	Toroku Jitsuyo Shinan Koho	1994-2004
Kokai Jitsuyo Shinan Koho	1971-2004	Jitsuyo Shinan Toroku Koho	1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 11-200959 A (Isuzu Motors Ltd.), 27 July, 1999 (27.07.99), Full text; Figs. 1, 7, 8 (Family: none)	1-7
Y	JP 7-217767 A (CKD Kabushiki Kaisha), 15 August, 1995 (15.08.95), Full text; Figs. 1 to 3 (Family: none)	1-7
Y	JP 8-170755 A (KOGANEI CORP.), 02 July, 1996 (02.07.96), Full text; Fig. 1 (Family: none)	1-7

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search  
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15 June, 2004 (15.06.04)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/002975

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 200382/1985 (Laid-open No. 108602/1987) (SMC Corp.), 11 July, 1987 (11.07.87), Full text; Fig. 1 (Family: none)	1-7